

In the Claims

1. (Currently amended) A serverless backup system for backing up information on a network including one or more servers, comprising:

a storage system for storing information to be backed up and restored, the storage system operable to:

receive the information from a plurality of workstations; and

store the information received from the plurality of workstations; and

a backup storage system for backing up the information and restoring the information, the backup storage system coupled to the storage system and to one or more servers via a network; ~~wherein the backup storage system operable to:~~

obtain a static view of a relevant portion of the storage system;

map one or more blocks of data comprising the information being backed up to corresponding files; and

back up the information being backed up is transferred by transferring the information being backed up using one or more data movers operable to transfer the information being backed up directly from the storage system to the backup storage system, using one or more extended copy commands, without going through the one or more servers; and

restore the information being restored is transferred by transferring the information being restored using one or more data movers operable to transfer the information being restored directly from the backup storage system to the storage system, using one or more extended copy commands, without going through the one or more servers.

2. (Original) The system as recited in Claim 1, wherein the backup storage system comprises a tape storage system.

3. (Original) The system as recited in Claim 1, wherein the storage system comprises a disk storage system.

4. (Original) The system as recited in Claim 1, wherein the network comprises a storage area network.

5. (Original) The system as recited in Claim 1, wherein the information is transferred between the backup storage system and the storage system using an Extended Copy command.

6. (Original) The system as recited in Claim 1, wherein prior to transferring information directly from the storage system to the backup storage system, a snapshot of the storage system is taken.

7. (Original) The system as recited in Claim 6, wherein a period of write inactivity to the storage system is waited for prior to taking the snapshot.

8. (Original) The system as recited in Claim 7, wherein the period of inactivity is a predefined period of time.

9. (Original) The system as recited in Claim 8, wherein the predefined period of time is three seconds.

10. (Original) The system as recited in Claim 7, wherein if the period of write inactivity does not occur by time a timeout period has expired, the transfer fails.

11. (Original) The system as recited in Claim 10, wherein the timeout period is a predefined period of time.

12. (Original) The system as recited in Claim 11, wherein the predefined period of time is 80 seconds.

13. (Currently amended) A serverless backup method for backing up information on a network including one or more servers, comprising:

providing a storage system for storing information to be backed up and restored, the storage system operable to:

receive the information from a plurality of workstations; and

store the information received from the plurality of workstations;

providing a backup storage system for backing up the information and restoring the information, the backup storage system coupled to the storage system and to one or more servers via a network;

obtaining a static view of a relevant portion of the storage system;

mapping one or more blocks of data comprising the information being backed up to corresponding files;

backing up the information by transferring the information being backed up using one or more data movers operable to transfer the information being backed up directly from the storage system to the backup storage system, using one or more extended copy commands, without going through the one or more servers; and

restoring information by transferring information being restored using one or more data movers operable to transfer the information being restored directly from the backup storage system to the storage system, using one or more extended copy commands, without going through the one or more servers.

14. (Original) The method as recited in Claim 13, wherein the backup storage system comprises a tape storage system.

15. (Original) The method as recited in Claim 13, wherein the storage system comprises a disk storage system.

16. (Original) The method as recited in Claim 13, wherein the network comprises a storage area network.

17. (Original) The method as recited in Claim 13, wherein the information is transferred between the backup storage system and the storage system using an Extended Copy command.

18. (Original) The method as recited in Claim 13, further comprising taking a snapshot of the storage system prior to transferring information directly from the storage system to the backup storage system.

19. (Previously presented) The method as recited in Claim 18, further comprising waiting for a period of write inactivity to the storage system prior to taking the snapshot.

20. (Previously presented) The method as recited in Claim 19, wherein the period of write inactivity is a predefined period of time.

21. (Previously presented) The method as recited in Claim 20, wherein the predefined period of time is three seconds.

22. (Previously presented) The method as recited in Claim 19, wherein if the period of write inactivity does not occur by time a timeout period has expired, the transfer fails.

23. (Previously presented) The method as recited in Claim 22, wherein the timeout period is predefined period of time.

24. (Previously presented) The method as recited in Claim 23, wherein the predefined period of time is 80 seconds.

25. (Currently amended) A computer readable medium including code for performing a serverless backup method for backing up information on a network, the network including a storage device for storing information to be backed up and restored, the storage system operable to receive the information from a plurality of workstations and store the information received from the plurality of workstations, the network further including a backup storage system for backing up the information and restoring the information, the backup storage system coupled to the storage system and to one or more servers via the network, the code comprising:

code for obtaining a static view of a relevant portion of the storage system;

code for mapping one or more blocks of data comprising the information being backed up to corresponding files;

code for backing up the information by transferring the information being backed up using one or more data movers operable to transfer the information being backed up directly from the storage system to the backup storage system, using one or more extended copy commands, without going through the one or more servers; and

code for restoring the information by transferring the information being restored using one or more data movers operable to transfer the information being restored directly from the backup storage system to the storage system, using one or more extended copy commands, without going through the one or more servers.

26. (Original) The medium as recited in Claim 25 wherein the information is transferred between the backup storage system and the storage system using an Extended Copy command.

27. (Original) The medium as recited in Claim 25, further comprising code for taking a snapshot of the storage system prior to transferring information directly from the storage system to the backup storage system.

28. (Original) The medium as recited in Claim 27, further comprising code for waiting for a period of write inactivity to the storage system prior to taking the snapshot.

29. (Original) The medium as recited in Claim 28, wherein the period of write inactivity is a predefined period of time.

30. (Original) The medium as recited in Claim 29, wherein the predefined period of time is three seconds.

31. (Original) The medium as recited in Claim 28, wherein if the period of write inactivity does not occur by time a timeout period has expired, the transfer fails.

32. (Original) The medium as recited in Claim 31, wherein the timeout period is a predefined period of time.

33. (Original) The medium as recited in Claim 32, wherein the predefined period of time is 80 seconds.

34. (Original) A serverless backup method comprising:
opening a file system root directory;
parsing the file system root directory for allocation tables of each file and finding attributes of each file;
examining the attributes of each file and determining whether a file is resident or non resident;
backing up entire attributes of a file if it is determined that the file is resident; and
backing up attributes and data blocks belonging to the file if it is determined that the file is non resident.